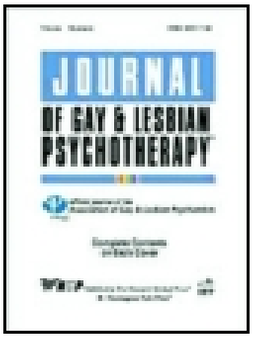

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The Transgender Awareness Webinar:Reducing Transphobia Among Undergraduates and Mental Health Providers

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Abstract

The present 2-part study involved the development, dissemination, and pre-post assessment of the effectiveness of the Transgender Awareness Webinar to reduce transphobia - stigma towards transgender individuals. The goal of the webinar was to educate undergraduates and mental health providers about transgender individuals and reduce transphobic attitudes. In Study 1, 303 undergraduates at a state university in the Northeastern U.S. completed electronic pretest and

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posttest measures of the Transphobia Scale (Nagoshi et al., 2008) before and after participating in the webinar. In Study 2, the Transgender Awareness Webinar was expanded to include mental health content and disseminated to 158 mental health providers. Results from Study 1 and Study 2 revealed that the transphobic attitudes significant reduced from pretest to posttest test scores on the Transphobia Scale after completing the webinar. Findings suggest that transgender awareness training can be effective for reducing transphobia among various groups, with potential differences in baseline transphobic attitudes depending on demographic variables, prior contact with and prior education about transgender individuals.

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Introduction

Transgender people commonly report problems with transphobia. Transphobia is a form of stigma towards transgender individuals which includes negative reactions and attitudes of fear, aversion, and discriminatory treatment of people who are or are perceived to be transgender or gender nonconforming (Kidd, Veltman, Gately, Chan, & Cohen, 2011; Meyer, 2003). Education about transgender populations has been found to significantly reduce stigma and transphobic attitudes (Walch et al., 2012). A webinar may be a useful tool for widely and flexibly educating a large group of providers and members of the public about transgender people. Thus, the goal of the present study was to develop and evaluate the Transgender Awareness Webinar in order to inform participants about transgender individuals and reduce stigmatizing, transphobic attitudes.

Need for Transgender Awareness Training

There is a significant need for transgender awareness training to reduce stigma and discrimination. Transgender individuals report problems with transphobia on the part of mental health providers, medical providers, and among the general public (Grant et al., 2011; Poteat, Germna, & Kerrigan, 2013). The abuse or neglect from peers and family, and daily stigma and discrimination is associated with psychological distress and high-risk behavior (Mayer, Garofalo, & Makadon, 2014). The consequences of transphobia for transgender individuals can include anxiety, depression, suicidality, substance abuse, and high-risk sexual behavior (Grossman & D'Augelli, 2007; Mustanski, Garofalo & Emerson, 2010; Reisner, Perkovich, & Mimiaga, 2010). However, there is a general lack of training on overall LGBT health in training programs for

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psychology (Shipherd, 2015), medicine (Moll et al., 2014), and other disciplines (Knochel, Croghan, Moone, & Quam 2012).

Health care professionals have only recently recognized the need for extensive education on caring for the LGBT community in general (Mayer et al., 2014). Much of the training that is being conducted is on LGBT individuals as a combined group, overlooking the unique experiences and concerns of transgender people. The training that is conducted on LGBT issues in medical schools, for example, is relatively short and varies in quality and content (Obedin-Maliver, 2011). Mental health providers are also lacking LGBT training in graduate school as well as in post-degree continuing education programs (Eliason & Hughes, 2004; Johnson & Federman, 2014; Travers et al., 2010). A survey of the Veterans Health Administration psychologists found that clinicians are beginning to recognize the need for LGBT affirmative health care (Johnson & Federman, 2014). However, there continues to be gaps in professional training, clinical experience, affirmative attitudes, and competence (Johnson & Federman, 2014).

Added to these challenges to affirmative transgender care are a number of individual variables on the part of providers that pose further barriers to care related to stigma. One study found that providers with negative attitudes about LGBT individuals were more likely to be heterosexual and religiously conservative, with less formal education and fewer hours of continuing education training on LGBT people (Eliason & Hughes, 2004). Another study compared younger to older psychologists and found the latter group had less graduate training in issues of sexual orientation and gender identity, and less LGBT-affirmative attitudes (Johnson & Federman, 2014). This study also found trainees from less politically progressive regions had less LGBT-affirmative attitudes, less LGBT training, and were less interested in furthering their

training in these populations (Johnson & Federman, 2014). These findings suggest the importance of more training on LGB and transgender individuals, particularly earlier on in one's career when training can have a lifelong impact. Furthermore, there is a need for training that is effective with providers with different backgrounds and attitudes.

Anti-Stigma Trainings

Anti-stigma trainings have been developed and evaluated across a number of formats to reduce homophobia, transphobia, and mental health stigma among providers. The most traditional anti-stigma training format that has been researched is a lecture. For example, one study found a lecture on transgender health for medical students effectively enhanced knowledge and self-reported competence of these students in serving the transgender community (Dowshen, Nguyen, Gilbert, Feiler, & Margo, 2014). Another lecture-based LGBT training was conducted for providers who serve LGBT older adults (Leyva, Breshears, & Ringstad, 2014). This study found participants improved in knowledge, skills, and attitude with working with LGBT adults, with large improvements among men and heterosexual individuals in particular.

Panel Trainings

Another common LGBT training format is the panel. One study compared the efficacy of transgender training formats in a traditional lecture presentation by a *cisgender* (non-transgender) expert, as compared to a talk by a panel of transgender people (Walch et al., 2012). Although reduction in transphobia scores was found in both groups, there was a greater reduction among viewers of the transgender panel than the traditional lecture. The authors attributed these effects to *intergroup contact theory* or the *contact hypothesis*, where contact between groups can reduce stereotypes and bias (Pettigrew, 1998). Another training study was conducted using a

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panel of older LGBT adult speakers to train students and professionals from a range of education and communication settings (Rogers, Rebbe, Gardella, Worlein, & Chamberlin, 2013). This study also found positive outcomes, including high rates of satisfaction, increased awareness, and self-reflection on personal biases among viewers. Ultimately, anti-stigma trainings in a range of formats have been found to be effective in reducing prejudice towards LGBT individuals among different types of participants. However, more research is needed to develop and evaluate transgender awareness trainings in particular.

Webinars

Although educational trainings have been found to be effective in reducing stigma, they are often limited in scope by in-person formats. Due to their inherent flexibility of access, webinars hold particular utility to promote knowledge about transgender populations and reduce transphobia among providers and other members of the general public. Webinars are web-based seminars focused in training and teaching about a subject that can include live online presentations, workshops, or programs that are conducted via web conferencing (Godfrey, 2009; Wang & Hsu, 2008). Webinars are a particularly useful tool in this digital age, with added benefits of efficiency, flexibility, and low cost (Verma & Singh, 2010). Webinars can reach a large audience through the Internet, as they can be taken from any location at self-selected times, and allow participants to learn information at their own pace (Chen, Lin, Yeh, & Lou, 2013; Verma & Singh, 2010).

A number of studies have been conducted on the effectiveness of webinars in achieving learning objectives. One qualitative study found students who used webinar tools demonstrated high satisfaction levels related to saving on commute time, attendance in a personalized

environment, and reduced anxiety levels (Wang & Hsu, 2008). A second, experimental study demonstrated effectiveness in the use of a live webinar to enhance the beliefs and knowledge about sexual exploitation among child protective service workers as compared to a control group (McMahan & Reimers, 2013). Lastly, a webinar study was conducted to standardize training for a study of breast cancer treatment effects among older women across several cancer research sites (Avila et al., 2011). This webinar was also rated highly by participants and was assessed to adequately prepare staff for data collection. In sum, webinars have been used effectively for a range of learners and training purposes, and would be a valuable option for conducting wide-scale transgender awareness trainings.

Rationale

The literature demonstrates that education can significantly reduce transphobic attitudes among undergraduates, the general public, and providers. However, in-person trainings may incur greater cost, time, and geographic barriers in reaching a wide population. Moreover, additional trainings are needed that focus specifically on transgender awareness training given the typical focus on the general LGBT population as a group. In addition, trainings are needed for other segments of the general public, like undergraduates, given the common focus on mental health providers. Lastly, the present literature review reflects that individual demographic variables may impact attitudes towards transgender populations and responsiveness to training. Thus, the present study was conducted to develop and assess the effectiveness of the Transgender Awareness Webinar in lowering transphobic attitudes for distribution among a wide range of mental health providers and among undergraduates.

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Thus, Study 1 and Study 2 were undertaken to evaluate a transgender awareness webinar for undergraduates and mental health providers, respectively. Study 1, focused on evaluating the webinar with undergraduates and was conducted in the fall of 2014. Study 2 was conducted with mental health providers in the spring of 2015. It should be noted that these studies were conducted just before increased visibility of transgender issues in the media, including the public transition of Caitlin Jenner in 2015, and the enhanced visibility of bathroom bills in 2016. Please give some clarification of the cultural context with which the study occurred. More information about the two webinars from each of the two studies is provided in Table 1.

Study 1

The purpose of Study 1 was to evaluate the effectiveness of the Transgender Awareness Webinar in reducing transphobic attitudes among undergraduates. It was hypothesized that participation in the Transgender Awareness Webinar would significantly reduce transphobic attitudes. It was also hypothesized that participants with prior education with transgender individuals would have lower baseline transphobia, but the webinar would still lead to reduced levels of transphobia. A third hypothesis was that participants with prior contact with transgender individuals would have lower baseline transphobia, but the webinar would still lead to reduced levels of transphobia. It was also expected that participants would differ in pre-post transphobia scores on the webinar and in overall transphobic attitudes depending on demographic variables including gender, race/ethnicity, sexual orientation, socioeconomic status (SES), religion, degree, and college year. Lastly, it was hypothesized that participants would report high rates of positive responses on the participant feedback section, including increase in knowledge, awareness of transgender people,

awareness of the effects of transphobia, interest in becoming involved in activism, reduced confusion about working with transgender people, and reduced bias.

Method

Participants

Participants included 305 undergraduates from a Northeastern state university. Ages ranged from 18 to 47 years of age (M = 21, SD = 4.74). The sample was predominantly white, cisgender, female-identified, heterosexual, Christian, and middle class. Additional specific demographic information of the participants is displayed in Table 2. Current college year based on credits was somewhat evenly split, including 28.5% freshman (*n* = 87), 22.6% sophomores (*n* = 69), 22.6% juniors (*n* = 69), 18.7% seniors (*n* = 57), and 7.5% other (*n* = 23). The "other" category of students likely included non-matriculated students who were auditing courses, as well as students in their fifth or more years of school.

Procedure

The present study employed a pre-experimental, pretest-posttest design to evaluate effectiveness of reducing transgender-related stigma among undergraduates. Each participant completed an electronic pretest and posttest measure of transphobia before and after participating in the webinar. Undergraduates were recruited from the psychology department research pool at this university and received course credit for participation. The study was approved by the institutional review board.

The 30-minute webinar was developed by the first author and included Microsoft PowerPoint lecture slides, images, charts, and video. Interactive quiz questions were integrated

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to enhance engagement and knowledge acquisition. Content included topics such as appropriate terminology, pronoun usage, qualities of respectful interaction, the impact of transphobia, and resilience in the trans population. Concepts included gender transition/affirmation, the notion of gender as a spectrum, as well as distinctions between sexual orientation and gender identity. Five content experts in transgender research and services provided feedback and revision on initial drafts of the webinar to enhance cultural competence of the webinar content. Feedback was also integrated from pilot tests by 4 undergraduates to enhance usability by the target participant group.

Measures

Background and demographic data questionnaire

A background questionnaire was used to gather self-reported demographic information gender, age, sexual orientation, race/ethnicity, religion, household income, college year, and prior contact with and prior education about transgender individuals. On the "prior contact" item of the questionnaire, participants were asked about what prior contact with transgender individuals they have had, including an acquaintance, friend, family member, intimate relationship, or Other. This variable was calculated based on the sum of their contacts. The "prior education" variable was measured similarly as a sum of the types of prior education the participant had with transgender issues. Types of prior education in transgender issues included exposure to the following: a TV program or film, lecture or educational presentation, transgender speaker, read an article, read a book, or Other.

Transphobia

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The *Transphobia Scale* (Nagoshi et al., 2008). The *Transphobia Scale* was used to assess transphobic attitudes. The Transphobia Scale is a 9-item Likert scale (1-strongly agree; 7-strongly disagree) used during pretest and posttest assessment to evaluate baseline and posttest changes in attitudes towards transgender people. The Transphobia Scale score is a mean of the 9 items, with higher scores reflecting higher levels of disagreement with transphobic attitudes in the items on the scale. An example of an item on the scale includes: "I avoid people on the street whose gender is unclear to me." Strong reliability has been demonstrated for this scale in terms of test-retest reliability ($\alpha = .88$) and internal consistency ($\alpha = .82$). Strong convergent, discriminant, and construct validity have also been demonstrated for this scale (Nagoshi et al., 2008). In the present dataset, excellent reliability was found for internal consistency ($\alpha = .87$) and test-retest reliability ($r = .89$).

Statistical analysis

Survey data were analyzed using descriptive and inferential statistical analyses using the statistical program, IBM SPSS Statistics Version 23. Analysis was conducted of the dependent variable of transphobia scores (*Transphobia Scale*) and the independent variables of gender, age, sexual orientation, race/ethnicity, religion, household income, college year, and prior contact with and prior education about transgender individuals. Descriptive data were generated for these variables as well as demographic data (means, medians, modes, frequency tables) to summarize characteristics of the participant demographics and distributions of variables of interest. To examine pre-post differences in the transphobic attitudes among study participants, a paired samples *t*-test was performed. Repeated measures ANOVA tests were also performed to examine

differences in prior education about transgender issues and prior contact with transgender individuals in determining changes in transphobia scores. Significant multivariate *F* tests ($p < .05$) were followed up with univariate analyses and post hoc tests to determine which groups differed significantly from one another. Exploratory correlations were also computed to examine relationships between demographic variables and mean transphobic attitude scores.

Results

Transphobia Reduction

The webinar led to significant increases in disagreement with transphobic attitudes according to pretest, posttest test scores on the *Transphobia Scale*. A paired-samples *t*-test (Table 3) indicated that participants more strongly disagreed with transphobic statements on the posttest (M = 5.08, SD = 1.23) than on the pretest (M = 4.66, SD = 1.14), $t(302) = -13.10$, $p < .001$. The effect size for this analysis ($d = -0.753$) was found to exceed Cohen's (1988) convention for a moderate effect ($d = +/-0.50$). In other words, participants more strongly disagreed with transphobic statements after taking the webinar. Among those scores, 70.3% scores decreased in transphobia, 12.0% of scores stayed the same, and 14.2% increased in transphobia.

Prior Education

There was a significant main effect on the repeated measures ANOVA for prior education about transgender issues and transphobic attitudes, $F(5, 283) = 4.48$, $p < .001$.Participants with more prior education about trans issues disagreed more with transphobic attitudes at both pretest and posttest assessment, and had even higher levels of

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disagreement with transphobic attitudes at posttest, as seen in Figure 1. There was not a significant interaction between prior education and prior contact $F(9, 283) = 1.159$, $p = .321$.

In terms of prior education about transgender issues, 47.2% ($n = 144$) had seen a TV show or film about transgender issues, 35.7% ($n = 109$) had read an article about transgender issues, 30.5% ($n = 93$) had seen a lecture or educational presentation about transgender issues, 12.5% ($n = 38$) had had some other educational exposure to transgender issues, and 11.5% ($n = 35$) had seen a transgender speaker give a talk. Of this sample, 20.7% ($n = 63$) had no prior education about transgender issues.

Prior Contact

Contrary to hypotheses, no significant main effect was found for the amount of prior contact with transgender individuals on the repeated measures ANOVA, $F(5, 283) = 0.224$, $p = .952$. This finding indicates that prior contact with transgender individuals did not lead to significant differences in transphobia scores from pretest to posttest.

With regard to prior contact with transgender individuals, 26.9% ($n = 82$) had an acquaintance (e.g., coworker, classmate, etc.) who is transgender, 15.1% ($n = 46$) had a friend who is transgender, 6.6% ($n = 20$) had a family member who is transgender, 3.9% ($n = 12$) had some other contact with transgender individuals, 0.7% ($n = 2$) were in an intimate-romantic relationship with someone who is transgender, and 0.3% ($n = 1$) of the sample identified as transgender. Of this sample, 39.7% ($n = 121$) had no prior experience with transgender individuals.

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Transphobic Attitudes

Additional analyses were conducted to examine relationships between overall transphobic attitudes, prior education, and prior contact, as well as differences in overall transphobia scores depending on demographic variables. The overall transphobia score was calculated by taking the mean of the pretest and posttest transphobia scores.

Prior education and prior contact

There was a weak, significant positive correlation between prior education and overall transphobia disagreement scores ($r = .288$, $p < .001$). This correlation indicated that the more prior education with transgender individuals, the higher disagreement with transphobic attitudes. There was no significant relationship for prior contact and overall transphobia disagreement scores or between prior contact and prior education.

Demographic variables

Additional repeated measures ANOVAs were performed to investigate differences in transphobia scores on the Transgender Awareness Webinar from pretest to posttest depending on participant demographic variables. No significant main effects or interactions were found on repeated measures ANOVAs for gender, sexual orientation, race/ethnicity, age, religion, college year, or class (SES).

ANOVAs were performed to examine demographic differences in overall transphobic attitudes. The first ANOVA was performed for gender, race/ethnicity, and sexual orientation. A main effect was found for sexual orientation $F(4, 303) = 3.76$, $p < .01$, where lesbian and gay

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individuals had significantly higher average rates of disagreement with transphobic attitudes (M = 5.94, SD = .49), than heterosexual individuals (M = 4.81, SD = .07).

A second ANOVA was performed to examine overall differences in transphobic attitudes depending on participant religion, SES, and college year. Among these independent variables, main effects were found for college year $F(5, 303) = 2.51$, $p < .05$, and religion $F(8, 304) = 2.12$, $p < .05$. With regard to college year, the seniors (M = 5.25, SD = .13) had significantly higher disagreement with transphobic attitudes than juniors (M = 4.68, SD = .14), and the sophomores (M = 4.99, SD = .13) had significantly higher disagreement with transphobic attitudes than freshman (M = 4.60, SD = .13). These findings suggested a trend towards lower transphobic attitudes among upperclassmen.

With regard to the main effect for religion, there were only 2 Muslim participants, 2 Buddhist participants, and 1 Hindu participant. Thus, these religious categories were dropped from the analysis in order to be able to have adequate data to conduct post hoc analyses. Post hoc tests of the remaining religious groups revealed that Atheists or Agnostics (M = 5.16, SD = .17), and the "Other" category (M = 5.19, SD = .15) had significantly higher mean disagreement with transphobic attitudes than Roman Catholics (M = 4.69, SD = .10), and Evangelical Christians (M = 4.36, SD = .30). Protestant Christians (M = 4.88, SD = .15) and Jewish participants (M = 4.78, SD = .29) had relatively moderate transphobia scores compared to the other religious groups on average.

Participant feedback

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On a participant feedback item list, participants endorsed the following yes/no response items as a result of taking the webinar: “more knowledgeable about transgender care” (85.6%; *n* = 274); “more aware of transgender people” (61.3%; *n* = 187); “more aware of the negative effects of transphobia” (55.7%; *n* = 170); “less confused about talking to transgender people” (38.7%; *n* = 118); “less biased towards transgender people” (37.0%; *n* = 113); “more interested in becoming involved in activism to support transgender rights” (17.4%; *n* = 53); and “other” benefits (2.6%; *n* = 8).

Discussion

Based on the findings from this pre-experimental design, the Transgender Awareness Webinar appeared to reduce transphobia among a range of participants, suggesting the feasibility for widespread dissemination given convenience in self-administration using the online, interactive format. Participants with past education about transgender individuals had lower transphobic attitudes in general, and transphobia was further reduced by additional education in the present webinar, as seen in Figure 1. Prior contact with trans individuals alone did not appear to significantly reduce transphobic attitudes. However, prior education did lead to increased disagreement with transphobic attitudes on the posttest.

Our findings regarding prior contact did not confirm previous research on the benefits of contact in reducing transphobia (King, Winter, & Webster, 2009), known as the contact hypothesis. This finding may have resulted from our lack of data on the quality of prior contact with transgender individuals. Instead, we assessed the different types of contact (e.g., acquaintance, partner, coworker, etc.) participants had. We may have found more differences in transphobic attitudes

depending on variables related to the quality of contact, such as level of closeness, relationship satisfaction, or length of time spent with a trans person.

Alternatively, it is possible that contact alone may be ineffective in reducing transphobia without the presence of prior education about transphobia or egalitarian values. In other words, if participants lack anti-stigma values, they may feel transphobic in the presence of a trans person regardless of the kind of contact they have with that person. This explanation could be reinforced by the fact that a minority of our participants increased in transphobic attitudes after participating in the webinar. Although education still appears to have more gains than losses given that over 70% of participants decreased in transphobia after the webinar, there may be a stereotype activation effect of anti-stigma education, where participants become more set in their prejudicial beliefs during this training.

In addition, differences in mean transphobic attitudes were also found depending on sexual orientation, religion, and college year, but not for gender, SES, or race-ethnicity. Specifically, LGB individuals had lower transphobic scores than heterosexual participants. With regard to religious groups, there was higher transphobia among Roman Catholics and Evangelical Christians in particular, as compared to Atheists and Agnostics. Transphobia also appeared to be lower in upperclassmen in contrast to lowerclassmen. Thus, college students who are further along in college, may be more responsive to educational interventions to reduce prejudice as in the present webinar. Alternatively, one might argue that the results reflect the positive impact of education and the added opportunity for lowerclassmen to benefit from transgender awareness training. Interestingly, transphobic attitudes did not differ depending on age, suggesting that the

effectiveness of education in reducing transphobic attitudes is not hindered or enhanced based on age. However, the undergraduate population at this state university is known to have a large group of non-traditional students, reflected in the larger range of ages that could have impacted the relationship between age and college level in the present sample. Ultimately, these findings suggest that some of the groups that may require particular targeted transgender awareness training include heterosexuals, conservatives or fundamental religious groups, and college lowerclassmen - particularly freshmen.

Qualitative feedback items indicated that participants generally responded positively to the webinar. Endorsement of benefits of taking the webinar from highest to lowest included improvements in knowledge, awareness, recognition of the negative effects of transphobia, reduced confusion about talking to transgender people, reduced bias, and interest in becoming involved in activism. These findings suggest that the webinar is particularly effective at increasing knowledge and awareness, as well as reducing transphobia. Although only 37.0% reported that they were less biased towards transgender people as a result of taking the webinar, this finding is challenged by the significant drop in transphobic attitudes from pretest to posttest in the sample. One explanation is that the participants were unconscious of their reduction in transphobic attitudes as a result of taking the webinar. Another explanation is that some participants may not have believed they had initial bias towards trans people, and therefore did not believe the webinar reduced their bias. It is also possible that there was a mix of both of these phenomena among the participants about the reduction of their transphobic attitudes. This finding would benefit from further exploration in future research. Ultimately, it is important to

note that this finding suggests that the webinar was in fact effective at increasing education as well as reducing bias, even if participants weren't aware that their bias had been reduced.

Study 1 indicated that our college sample reported less transphobia after taking the Transgender Awareness Webinar. The webinar successfully educated individuals regardless of the range of prior education about transgender issues demonstrated by over 20% of the sample having no prior experience with transgender issues at all and almost 40% having no prior contact with transgender individuals. However, further study was needed to evaluate an adaptation of the Transgender Awareness Webinar for mental health providers. Thus, study 2 was conducted to modify the Transgender Awareness Webinar for mental health providers and evaluate the webinar in reducing their transphobic attitudes.

Study 2

The purpose of Study 2 was to evaluate the effectiveness of an adaptation of the Transgender Awareness Webinar for mental health providers in reducing transphobic attitudes among this group. Like the first study, it was hypothesized that transphobic attitudes would be diminished after participating in the webinar, that those with prior education about and prior contact with transgender individuals would have lower baseline transphobia, and that the webinar would further reduce transphobia regardless of prior contact or education. It was also hypothesized that participants would differ on changes in transphobic attitudes after taking the webinar and in overall transphobic attitudes depending on demographic variables including gender, race/ethnicity, sexual orientation, SES, religion, degree, and graduate student status. It was hypothesized that participants would report high rates of positive responses on the

participant feedback section, measuring increase in knowledge, awareness of transgender people and the effects of transphobia, interest in becoming involved in activism, interest in working with transgender clients, reduced confusion about working with transgender people, and reduced bias.

Method

Participants

Participants included 158 mental health providers, including individuals who were currently in training to become mental health providers or practicing at the professional level. Ages ranged from 22 to 67 years of age (M = 34.04, SD = 9.48). The sample was predominantly white, cisgender female-identified, heterosexual, and atheist or agnostic. Socioeconomic status was relatively evenly split. Specific demographic information can be found in Table 2.

Among these participants, 46.8% (*n* = 74) were currently in a graduate program. The proportion of graduate program students within the total sample of providers were as follows: in graduate program for less than one year (7.0%; *n* = 11), 1-2 years (8.2%; *n* = 13), 3-4 years (21.5%; *n* = 34), 5-6 years (8.2%; *n* = 13), and for 7+ years (1.9%; *n* = 3). The highest degree that participants held or were working towards was mostly at the doctoral level (74.1%; *n* = 117).

Procedure

Like Study 1, the present study employed a pre-experimental, pretest-posttest design to evaluate the ability of the webinar to reduce transphobia among the participants, as reflected on the pretest and posttest measures of transphobia before and after participating in the webinar. Participants were recruited from several mental health provider listservs across the U.S. and

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Canada, including several American Psychological Association (APA) division listservs and others pertaining to mental health professionals. Several of the listservs included early career psychologists and divisions focused on women's issues and LGBT issues in psychology. The first 150 participants received a $10 gift card for participation. The study was approved by the institutional review board.

The webinar included Microsoft PowerPoint slides, images, charts, quiz questions, and video featured in the webinar in Study 1. This webinar was adapted from the previous webinar with additional video content on more complex issues of identity in the experience of transgender individuals, as well as content pertaining to gender nonconformity and gender dysphoria, the gender minority stress model, suicide risk factors, transgender emergence model, common barriers to care, role of the therapist, letter writing, and clinical expectations for gender work. With this added content, the webinar was approximately 40 minutes in length. Five content experts in transgender research and services provided feedback and revision on initial drafts of the webinar to enhance cultural competence of the webinar content. Examples of their feedback included revisions of terminology or definitions of terms and suggestions for additional content. These content experts are psychologists who conduct research, clinical work, and training specializing in transgender and gender nonconforming populations. Feedback was also integrated from pilot tests by 4 undergraduates to enhance usability. Examples of student feedback that was integrated included revisions made of definitions for clarity and improvements in any technical difficulties during piloting.

Measures

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Background and demographic data questionnaire

Like Study 1, a demographic questionnaire was used to gather demographic information and prior contact with and prior education about transgender individuals. Additional questions were added that were relevant to mental health providers, such as current graduate program status, degree, years in practice post-degree, prior clinical experience with transgender individuals, and prior contact with transgender individuals in clinical practice.

Transphobia

As in Study 1, The *Transphobia Scale* (Nagoshi et al., 2008) was

used to assess transphobic attitudes. The present dataset included excellent reliability in terms of internal consistency ($\alpha = .93$) and test-retest reliability ($r = .93$).

Results

Transphobia Reduction

Participants significantly reduced in transphobic attitudes according to pre-post test scores on the *Transphobia Scale* after taking the webinar. A paired-samples *t*-test (Table 3) indicated that participants more strongly disagreed with transphobic statements on the posttest (M = 6.29, SD = 0.77) than on the pretest (M = 5.97, SD = 0.84), $t(139) = -11.99$, $p < .001$. The effect size for this analysis ($d = -1.013$) was found to exceed Cohen's (1988) convention for a large effect ($d = +/-0.80$). Among these scores, 76.4% scores decreased in transphobia, 17.1% scores stayed the same, and 3.7% increased.

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Prior Education

Contrary to hypotheses, there was not a significant main effect on the repeated measures ANOVA for prior education about transgender issues and transphobic attitudes, $F(4, 113) = 1.081$, $p < .05$. Hence, participants with more prior education about transgender issues did not have significantly more or less disagreement with transphobic attitudes from pretest to posttest assessment.

In terms of prior education about transgender issues, 74.7% ($n = 118$) had read an article about transgender issues, 70.9% ($n = 112$) had seen a lecture or educational presentation about transgender issues, 61.4% ($n = 97$) had seen a TV show or film about transgender issues, 60.1% ($n = 95$) had attended a talk by a transgender speaker, 34.2% ($n = 54$) had read a book about transgender issues, 31.0% ($n = 49$) had completed previous transgender mental health training, and 25.9% ($n = 41$) had other education. Within this sample, 4.4% ($n = 7$) had no prior transgender education.

Prior Contact

Contrary to hypotheses, there was no significant main effect for prior contact on the repeated measures ANOVA of pretest/posttest webinar scores, $F(4, 113) = 0.579$, $p = .952$. Participants with prior contact with transgender individuals did not have significantly more or less disagreement with transphobic attitudes from pretest to posttest assessment.

With regard to prior contact with transgender individuals, 48.1% ($n = 76$) had an acquaintance who is transgender, 44.3% ($n = 70$) were currently working with a transgender

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client, or had previously, 31.6% (n = 50) had a transgender friend, 13.3% (n = 21) responded with "other," 3.8% (n = 6) were transgender, 2.5% (n = 4) had a family member who is transgender, 1.9% (n = 3) were in an intimate/romantic relationship with someone who is transgender. Among this sample, 19% (n = 30) had no prior contact with someone who is transgender.

Demographic Variables

A repeated measures ANOVA was performed to investigate differences in transphobia scores from before and after taking the webinar depending on various aspects of one's demographic background, including race/ethnicity, age, sexuality, SES, and religion.

There was only 1 Hindu participant and 1 Native American participant, so these cases were dropped from the initial analysis. A significant main effect was found for race on differences between pretest and posttest transphobia scores on the transgender awareness webinar $F(4, 22) = 3.279$, $p < 0.05$. In addition, a significant interaction was found for religion and race on differences between pretest and posttest transphobia scores on the transgender awareness webinar $F(1, 22) = 4.860$, $p < 0.05$.

A significant main effect was also found for the impact of sexual orientation on differences between pretest and posttest transphobia scores on the transgender awareness webinar $F(3, 20) = 4.068$, $p < 0.05$. Post hoc analyses indicated that the straight/heterosexual group was significantly more transphobic than the bisexual group and the "something else" sexual orientation group.

Degree and Graduate Status

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No significant results were found for a repeated measures ANOVA to investigate differences in pre-post transphobia scores on the webinar depending on various aspects of one's professional experience, including if currently in training $F(3, 33) = 1.147$, $p = 0.345$, degree $F(1, 33) = 0.025$, $p = 0.875$, and years post-degree $F(21, 33) = 0.457$, $p = 0.969$.

Transphobic Attitudes

Additional correlational analyses were conducted to examine relationships between prior education, prior contact, and overall transphobic attitudes. ANOVAs were also conducted to examine differences in overall transphobia scores depending on the different demographic variables. The overall transphobia score was calculated by taking the mean of pretest and posttest transphobia scores.

Prior education and prior contact

There was a significant positive correlation between prior contact and overall transphobia disagreement scores ($r = .385$, $p < .001$) as well as between prior education and overall transphobia disagreement scores ($r = .348$, $p < .001$). There was also a correlation between prior education and prior contact ($r = .567$, $p < .001$). These correlations indicated that the more prior contact with or prior education the providers had about transgender individuals, the higher their disagreement with transphobic attitudes. Also, the more prior contact, the more prior education the providers had.

Demographic variables

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ANOVAs were also conducted to examine demographic differences in overall transphobia. There was a significant main effect for race/ethnicity of participants in overall transphobia scores $F(5, 157) = 4.849$, $p < 0.01$. There was only one Native American participant, so this participant was dropped from the analysis in order to have adequate numbers in each group in order to conduct post hoc analyses. Mean disagreement with transphobic attitudes among racial/ethnic groups in order from low to high levels of disagreement with transphobic attitudes were as follows: Black or African American (M = 5.43, SD = 0.87), biracial or multiracial (M = 5.73 SD = 1.21), Asian or Pacific Islander (M = 6.03 SD = 0.94), White, Non-Hispanic (M = 6.21 SD = 0.67), and Hispanic or Latino/a (M = 6.27 SD = 0.52). With regard to post hoc analyses of racial/ethnic groups, the Black or African American group had significantly higher transphobia scores than all other racial/ethnic groups except for the biracial/multiracial group, from which they did not significantly differ. There was also a significant interaction for age and race on overall transphobia $F(18.158) = 2.001$, $p < 0.05$, suggesting cohort effects for racial/ethnic differences in transphobia. No main effects or other interactions were found for age, gender, sexuality, and SES on overall transphobia scores.

A significant main effect was found for religion in overall transphobia scores, $F(7,158) = 2.399$, $p < 0.05$, with mean transphobic scores in order from low to high disagreement with transphobia as follows: Evangelical Christian (M = 4.68, SD = 1.07), Roman Catholic (M = 5.85, SD = 0.89), Protestant Christian (M = 5.87, SD = 0.98), Jewish (M = 6.01, SD = 0.91), Atheist or Agnostic (M = 6.31, SD = 0.54), “Other” (M = 6.33, SD = 0.556), and Buddhist (M = 6.37, SD = 0.47). Post hoc tests indicated that the Evangelical Christians had the lowest average disagreement with transphobic attitudes than all other groups. The Roman Catholics had significantly lower

disagreement with transphobic attitudes than the Atheist/Agnostic and Other groups. In addition, the Protestant Christians had significantly lower disagreement with transphobic attitudes than the Atheist/Agnostic and Other groups.

Another ANOVA was conducted examining differences in overall transphobic attitudes depending on graduate status and degree. There was a significant main effect in overall transphobia scores for graduate status, $F(5, 157) = 2.410$, $p < .05$. Lowest to highest disagreement with transphobic attitudes included those who were: in a graduate program for 1-2 years (M = 5.63, SD = 1.33), in a graduate program for 7+ years (M = 5.76, SD = 0.66), not currently in a graduate program (M = 6.12, SD = 0.67), were in graduate program for 3-4 years (M = 6.24, SD = 0.62), and had recently started in a graduate program (M = 6.33, SD = 0.52). However, the means only significantly differed between those in school for 1-2 years as compared to the following groups: not currently in a graduate program, within 1 year of graduate school, and in a graduate program for 3-4 years. In sum, those in graduate school in the first 1-2 years had significantly lower disagreement with transphobic attitudes than those in graduate school for the first year, or 3-4 years, and those who had finished school.

Participant Feedback

Participants indicated on the feedback scale in order of most frequent responses: "As a result of taking the webinar, I feel": "more knowledgeable about transgender care" (65.8%; $n = 104$); "more interested in working with transgender clients" (41.1%; $n = 65$); "more aware of the negative effects of transphobia" (38.0%; $n = 60$), "more interested in becoming involved in activism to support transgender rights" (36.1%; $n = 57$); "more aware of transgender people"

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(34.8%; *n* = 55); "less confused about working with transgender people" (34.8%; *n* = 55); "less biased towards transgender people" (17.1%; *n* = 27); and "other" benefits of taking the webinar (15.8%; *n* = 25).

Discussion

Study 2 demonstrated a number of similar findings to Study 1. After taking the webinar, transphobic attitudes were significantly reduced. Prior contact did not lead to differences in pre-post transphobia scores on either webinar. The most endorsed benefit of both webinars included improvement in knowledge in both webinars. Differences were found in transphobic attitudes depending on race/ethnicity, religion, graduate status, degree, sexual orientation, and age. Moreover, Study 2 found differences in transphobic attitudes depending on college year and graduate student year, respectively. These findings reflected similarities in the impact of level of education on transphobic attitudes.

However, diverging from Study 1, higher levels of transphobia were found among those in the 1-2 years of graduate school compared to those in other years of school or those not in school. It should be noted that there was no difference in transphobic attitudes depending on level of graduate degree to explain a potential difference in master's degrees (~2 years) vs. doctoral degrees (4-6+ years). Thus, this finding suggests that there may be unpredictable cohort differences in transphobic attitudes among graduate students. Alternatively, there may be a potential openness and opportunities for anti-stigma training among graduate students with their first year of graduate training, later years of training, or after finishing graduate school.

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Diverging from Study 1, prior education about trans individuals did not lead to differences in transphobic attitudes from pre- to post-assessment in Study 2. It should be noted that in both studies, correlations were found for overall transphobic attitudes and prior education, suggesting that more education is associated with more disagreement with transphobic attitudes. This lack of difference may have been due to the fact that the mental health provider sample had a fairly high level of prior education about transgender issues, with only 4% having no prior education compared to 20% of the undergraduate sample. This difference may also have been due to the self-selecting nature of the mental health provider group from listservs, as opposed to the more general sampling of the undergraduate group from a psychology department. The listservs included feminist, LGBT-focused, and early career psychologist listservs, which may have led to a sample with more prior experience with transgender issues. In addition, several of the mental health providers reported in the write-in feedback section of the webinar that they had previous knowledge of much of the content on the webinar. Thus, this previous education may reflect a ceiling effect in terms of the differences that might have occurred in pre-post transphobia scores on the webinar depending on prior education, with a plateau occurring at relatively high levels of prior education.

It is unlikely that this high level of previous training was due to increased LGB or transgender training in graduate programs given the ongoing reports of a lack of transgender training in graduate school (Rutherford, McIntyre, Dailey & Ross, 2012). Regardless, it is important to note that the webinar still led to reductions in transphobia among providers on average regardless of prior contact and education. There was a smaller group in Study 2 that may have demonstrated stereotype activation with increases in transphobic attitudes (3.7%). Moreover, almost half the

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sample was working with a transgender client (44%), and most providers' scores decreased in transphobia after taking the webinar (76%). These findings reinforce the value of the webinar for mental health providers in promoting affirming clinical care among this group. Additionally, trainers might anticipate potential stereotype activation effects of anti-stigma training, educate participants about these potential effects, and develop strategies to overcome them, as discussed in the next section.

Study 1 found significant correlation between mean transphobic attitudes and prior contact among undergraduates. Those with no prior contact among mental health providers included 19%, while about two times this rate (39.7%) was found for undergraduates, again, likely due to the self-selecting sample of the mental health providers. This finding potentially clarifies why a correlation was not detected between transphobic attitudes and prior contact in the undergraduate group, but was found for the mental health provider group. Thus there may have been a floor effect in the present training, in which a certain amount of contact may have been required to detect a difference in overall transphobic attitudes.

Unlike Study 1, pre-post transphobia scores in Study 2 differed significantly depending on several demographic variables. These variables including religion, race, sexual orientation, and SES. These findings suggest implications for training that may benefit in effectiveness by taking into account differences in performance on anti-stigma trainings depending on sexuality, religious background, as well as the intersection of religion and SES. Also important from a training perspective, no significant differences were found in Study 2 in the impact of the

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webinar depending on type of degree or years post-degree. Hence, general trainings like ours can be used with a wide range of experience levels in the mental health field.

The correlation between prior contact and prior education seen in the mental health provider sample suggests that there may be a bimodal distribution of providers with a lot of experience in transgender populations and those with little, with higher transphobic attitudes among providers with less experience. Additionally, findings in Study 2 suggest that provider transphobia may differ depending on racial/ethnic and religious backgrounds. Thus, trainers may need to focus on variances in specific groups in mental health trainings in order to reduce transphobic attitudes, adapting the trainings to groups with different cultural backgrounds and values.

General Discussion

Overall, the Transgender Awareness Webinar demonstrated reduction in transphobic attitudes from pretest to posttest assessment across a range of undergraduates and mental health providers. Several differences in findings in Study 1 and Study 2 are also important to note. Diverging from Study 1, Study 2 found higher levels of transphobia among those in the 1-2 years of graduate school compared to those in other years of school or those not in school. In contrast, Study 1 found a reduction in transphobia as one progressed through college. This difference suggests that transgender awareness among mental health providers maybe less predictable depending on training level, with potential cohort effects.

In addition, Study 1 found no significant correlation between mean transphobic attitudes and prior contact among undergraduates, while Study 2 on mental health providers did. Perhaps the previous finding could be interpreted in this context to suggest that prior contact may impact

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transgender awareness more predictably among mental health providers who may specialize in this area, in contrast to the more general education level of college students. Moreover, the undergraduates in Study 1 did not demonstrate the correlation between prior contact and prior education that was seen in the mental health provider sample. This finding again suggests the added specialization and training among mental health providers who may seek out more contact and education with transgender individuals, in comparison to undergraduates who may be earlier on in their exposure and training in this area.

Lastly, while a proportion of participants in both Study 1 and Study 2 reported that the webinar did not reduce their bias towards transgender individuals, their reduction in transphobia scores suggest otherwise. The webinar appeared to reduce bias for participants in both studies -- potentially reflecting some participants' lack of awareness of pre-existing bias or the effects of the webinar in reducing their bias.

Limitations and Future Research

There are a number of limitations to the present research. A central limitation of the study is that it could have benefited from a control condition to compare changes that may have occurred in the Transphobia Scale simply by taking it twice. Each participant does serve as one's own control in a within-groups/repeated measures study with a pretest and posttest condition. However, threats to validity of a pre-experimental, pretest-posttest design without an added control group suggest that the present results should be interpreted with caution. Ultimately, the present pre-experimental design suggests that the Transgender Awareness Webinar appears to

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have potential beneficial effects and could be further investigated with the addition of a control comparison group to account for potential maturational effects or test-retest bias.

In addition, self-report bias can often pose limitations to pre-post survey assessments, and may have contributed to a reported reduction in transphobic attitudes or a lack of acknowledgement of bias that was present before taking the webinar. In addition, participants being predominantly white, heterosexual, and cisgender limited the generalizability of the studies. The mental health provider sample was also a highly educated group with regards to transgender populations, likely due to the self-selecting nature of enrolment, further limiting generalizability. Study 1 also used a sample of undergraduates to assess the use of the webinar for undergraduates, which could limit generalizability to the public as a whole. Future studies could be conducted to assess the generalizability of the webinar among broader demographic groups.

Pre-post assessment may have been somewhat limited by minimizing the length of the webinar, leading to our selection of the relatively short *Transphobia Scale*. In addition, while robust effects were found on the *Transphobia Scale*, further pre-post assessment of the webinar could be conducted with other measures of transphobia or prejudice. Research could also be conducted to follow-up with participants to show that reduction in transphobia from the webinar had a lasting effect. Our webinar was intentionally brief in order to serve as a short introduction to the topic. However, in-depth trainings are also important and could be generated in more extended online formats, in-person, or using combined webinar/in-person formats.

In addition, the prior education variable measured breadth rather than depth, and failed to capture differences in amount of education in each area (e.g., one TV program vs. 100 articles).

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Moreover, while the webinar focused on knowledge and attitude change, it is also important to conduct future research in this area that targets behavioral change. One webinar may not be sufficient to impact change across all levels of learning leading to behavior change. Additional study could be conducted to measure differences in treatment towards transgender individuals following longer-term anti-bias training.

Based on anecdotal feedback during piloting of the webinar, the film clips involving narratives from transgender individuals appeared to be particularly valuable in reducing transphobic attitudes. Future research might isolate the effects of the video clips, general content, and quiz questions alone or combined in effectively reducing transphobic attitudes. Moreover, future studies could combine the webinar with a speaker panel, experiential activities, and other training formats to attempt to further reduce transphobia and promote awareness.

Training Recommendations

We found demographic differences in transphobic attitudes, and the literature suggests strategies for overcoming these potential barriers for training. Whitman and Bidell (2014) discussed these training implications, indicating that graduate students may be lacking the tools to separate conservative beliefs with regards to politics, religion, and culture from their work with LGBT clients. They suggest that clinical-educators can inform students who struggle with these beliefs about professional best practices and evidence-based practices with LGBT clients, including the potential harm that can come from sexual and gender aversion approaches. LGBT affirmative mental health training should also be one that purposefully integrates and infuses this perspective into the counselor training curriculum, research, and clinical training. Moreover,

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these authors suggest that a shift in beliefs can be disorienting and lead these students to feel distance from the original communities from which ideas came. Educators should be mindful that these students can experience loss as a result of a change in perspective.

A number of recommendations for webinar trainings have also emerged from the present study and the extant literature. Pilot testing and participant feedback suggested that our webinar boosted engagement by integrating versatile content, including quiz questions, images, charts, and video. Other webinar developers also recommend that trainers should try to avoid placing heavy cognitive loads on participants by developing technologically simple and somewhat brief webinars (Wang & Hsu, 2008). Information conveyed in a webinar should be clear, concise, and in a logical fashion (Careless, 2012). Webinars can increase engagement with the audience through other techniques such as online chat forums and Q&A given that the audience may be more distracted while on their individual computers (Careless, 2012).

Conclusion

The internet-based nature of the webinar allowed for widespread dissemination and popularity of the webinar, as participants were able to complete the webinar from any computer at their convenience. This webinar is likely to be valuable for educating and reducing transphobic attitudes among undergraduates, and potentially by extension, the general public. Widespread dissemination of this webinar to the public and providers can maximize the potential impact for reducing transphobia. In the future, this research will help to launch this training for continuing education for mental health graduate students and trainees. Distributing the training for widespread use will take full advantage of the potential impact for reducing transphobia faced

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by transgender individuals among undergraduates and in mental health service settings through easily accessible educational materials.

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Table 1 Summary of Study 1 and Study 2 Webinar Differences

	Study 1 Webinar	Study 2 Webinar
Timeline	Fall 2014	Spring 2015
Participants	303 undergraduates	158 mental health providers
Recruitment	Psychology department research pool	Mental health provider listservs
Webinar Format	• Microsoft PowerPoint lecture slides	• Microsoft PowerPoint lecture slides
	• images	• images
	• charts	• charts
	• interactive quiz questions	• interactive quiz questions
	• trans 101 video	• trans 101 video
		• trans identity video
Webinar Content	• gender transition/ affirmation	• gender transition/ affirmation
	• notion of gender as a spectrum	• notion of gender as a spectrum
	• distinctions between sexual orientation, gender identity	• distinctions between sexual orientation, gender identity
	• appropriate terminology	• appropriate terminology
	• pronoun usage	• pronoun usage
	• qualities of respectful interaction	• qualities of respectful interaction
	• impact of transphobia	• impact of transphobia
	• resilience in the trans population	• resilience in the trans population
		• gender nonconformity and gender

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		dysphoria
		• gender minority stress model
		• suicide risk factors
		• transgender emergence model
		• common barriers to care
		• role of the therapist, letter writing
		• clinical expectations for gender work
Webinar Length	30 minutes	40 minutes
Pre-Post Measure	Transphobia Scale	Transphobia Scale

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Table 2 Summary of Demographic Information

Study 1 (*N* = 305)			Study 2 (*N* = 158)	
Variable	*n*	(%)	*n*	(%)
Gender				
Female	267	(87.5)	124	(78.5)
Male	37	(12.1)	27	(17.1)
Transgender/Gender Non-Conforming	1	(0.33)	7	(4.4)
Sexual Orientation				
Heterosexual	285	(93.4)	99	(62.7)
Lesbian or Gay	5	(1.7)	19	(12.0)
Bisexual	11	(3.6)	21	(13.3)
Pansexual	2	(0.66)	0	(0)
Didn't Know/Something Else	2	(0.66)	4	(2.5)
Race/Ethnicity				
White/Non-Hispanic	256	(84.6)	111	(70.3)

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Hispanic/Latino	24	(7.9)	9	(5.7)
Black/African American	13	(4.3)	9	(5.7)
Asian/Pacific Islander	6	(2.0)	18	(11.4)
Biracial/Multiracial	5	(1.6)	10	(6.3)
Religious Affiliation				
Roman Catholics	138	(45.2)	20	(12.7)
Protestant Christians	53	(17.4)	17	(10.8)
Atheist/Agnostic	45	(14.8)	58	(36.7)
Other	43	(14.1)	34	(21.5)
Evangelical Christian	12	(3.9)	5	(3.2)
Jewish	9	(3.0)	17	(10.8)
Muslim	2	(6.6)	0	(0)
Hindu	1	(.33)	1	(.63)
Buddhist	1	(.33)	6	(3.8)
Household Income				
less than $25,000	40	(13.1)	27	(17.1)

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$25,000-34,999	27	(8.9)	16	(10.1)
$35,000-49,999	42	(13.8)	20	(12.7)
$50,000-$74,999	55	(18)	17	(10.8)
$75,000-99,999	75	(24.6)	30	(19)
$100,000-149,999	42	(13.8)	32	(20.3)
$150,000 or more	24	(7.9)	16	(10.1)

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Table 3 Summary of Paired Samples T-Tests for Transgender Awareness Webinar

	Pretest		Posttest		
	M	SD	M	SD	t-test
Study 1 (*N* = 303)					
Transphobia Scale	4.66	1.14	5.08	1.23	-13.10*
Study 2 (*N* = 158)					
Transphobia Scale	5.97	0.84	6.29	0.77	-11.99*

*$p < .001$.

Note. M = Mean. SD = Standard Deviation.

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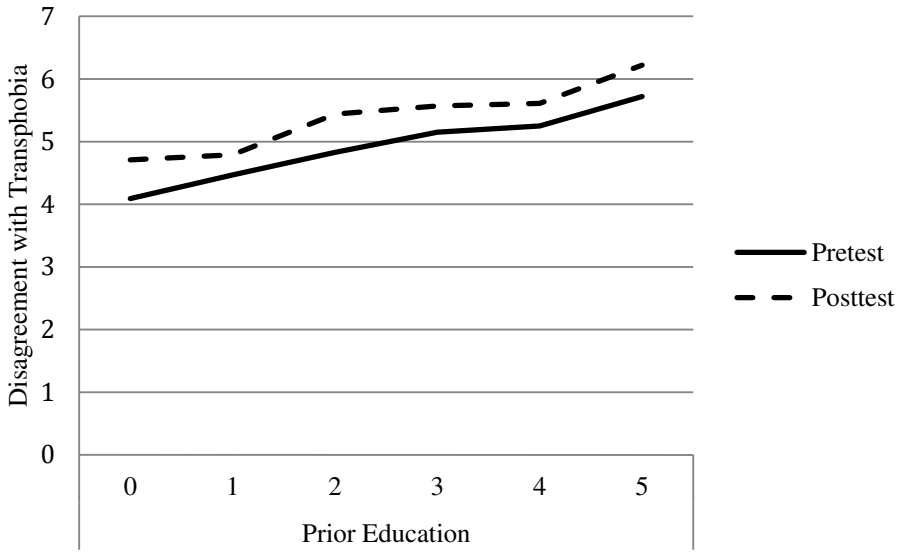

Figure 1. Pretest and posttest scores measure level of disagreement with transphobic attitudes (*y*) before and after taking the Transgender Awareness Webinar. Amount of prior education on transgender issues reflected on the *x* axis.

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